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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/732,987	12/11/2003	Michael E. Fye	DP-306976 CIP	8560

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EXAMINER

HAN, JASON

ART UNIT PAPER NUMBER

2875

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/732,987	Applicant(s) FYE ET AL.	
	Examiner Jason M. Han	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to because of the following informalities: Grammatical error – please rewrite to read “said diffusing substance is at least one selected from the group”... Appropriate correction is required.
2. Claim 4 is objected to because of the following informalities: Applicant recites “said opaque layer”. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.
3. Claim 5 is objected to because of the following informalities: Applicant recites “the light-passing coating layer” in lines 1-2 of the claim. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.
4. Claim 7 is objected to because of the following informalities: First, the recitation “said fluorescing material is chosen based on a light spectrum of a light source and a desired light spectrum” is vague. Applicant should positively cite the structural limitations. Second, applicant recites “said graphic”. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.
5. Claim 17 is objected to because of the following informalities: Typographical error – “base potion”. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1 and 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Fabry et al. (U.S. Patent 5063379).

7. With regards to Claim 1, Fabry discloses a backlit display including:

- At least one light source [Figure 3: (26, 27, 39, 40, 41)];
- A backlit component [Figure 3: (32)]; and
- A light-transmitting substrate [Figure 3: (33)] having at least one fluorescing material incorporated into the substrate [Column 4, Line 28], wherein the light-transmitting substrate is intermediately located between the light source and the backlit component such that the backlit component passes light through at least one selected portion of the substrate.

8. With regards to Claim 18, Fabry discloses the backlit component being a liquid crystal display [Column 4, Lines 13-15], whereby the passing of light through at least one selected portion of the substrate is facilitated by a graphics area formed about a surface of the liquid crystal display [Column 4, Lines 13-65].

9. With regards to Claim 19, Farby discloses the backlit display including a reflective housing [Figure 3: (31)] wherein a beveled area receives the substrate.

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10. With regards to Claim 20 Fabry discloses the housing [Figure 3: (31)] including a reflective, opaque material [Column 4, Lines 42-43].

11. Claims 1-10, 21-22, 24, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Fujita et al. (U.S. Patent 6517213).

12. With regards to Claim 1, Fujita discloses a backlit display including:

- At least one light source [Figure 19: (212)];
- A backlit component [Figure 19: (218)]; and
- A light-transmitting substrate [Figure 19: (214-217)] having at least one fluorescing material [Figure 19: (214)] incorporated into said substrate, wherein the light-transmitting substrate is intermediately located between the light source and the backlit component such that the backlit component passes light through at least one selected portion of said substrate.

13. With regards to Claim 2, Fujita discloses a diffusing material [Figure 19: (215)] incorporated into the substrate for diffusing light passing through said substrate.

14. With regards to Claim 3, Fujita discloses the diffusing substance including an inorganic filler [Column 19, Lines 33-35].

15. With regards to Claim 4, Fujita discloses a light-passing coating layer [Figure 19: (214)] disposed between the substrate and an opaque layer [Figure 19: (211)].

16. With regards to Claim 5, Fujita discloses the light-passing coating layer [Figure 19: (214)] being colored to reflect a daytime graphics color [Column 19, Lines 12-16].

17. With regards to Claim 6, Fujita discloses the substrate being formed from a polymer [Column 19, Lines 33-43].

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18. With regards to Claim 7, Fujita discloses the fluorescent material being chosen based on a light spectrum of a light source and a desired light spectrum for a graphic [Column 20, Lines 39-47].

19. With regards to Claim 8, Fujita discloses the light source being a light emitting diode [Column 18, Lines 6-7].

20. With regards to Claim 9, Fujita discloses the light source being a blue light emitting diode [Column 18, Lines 38-40].

21. With regards to Claim 10, Fujita discloses the backlit component being a button [Column 23, Lines 39-44] and the passing of light through at least one selected portion of said substrate being facilitated by a graphics area formed about a surface of the button [Figure 19: (216); Column 19, Lines 36-38].

22. With regard to Claims 21-22, 24, and 26, Fujita discloses the substrate [Figure 19: (214-217)] includes a contour with constant thickness, flatness, and box-shaped.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

23. Claims 11-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. (U.S. Patent 6517213) as applied to Claims 1 and 10 above, and further in view of Ogawa (U.S. Patent 5403984).

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24. With regards to Claim 11, Fujita discloses the claimed invention as cited above, but does not specifically teach a light pipe intermediately positioned in the button that is located between the substrate and the light source.

Ogawa teaches a button [Figure 3: (4)] wherein a light pipe [Figure 3: (31, 31a)] is intermediately disposed therein between a substrate [Figure 3: (43)] and a light source [Figure 3: (13)].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the button of Fujita to incorporate the light pipe of Ogawa in order to remotely and efficiently transfer the illumination to the substrate/specific area from the light source.

25. With regards to Claim 12, Fujita discloses the claimed invention as cited above, but does not specifically teach the button being positioned over a discrete silicon rubber switch dome and a circuit board.

Ogawa teaches a button [Figure 3: (4)] over a discrete silicon rubber switch dome [Figure 3: (24)] and a circuit board [Figure 3: (22)].

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the button of Fujita with the discrete silicon rubber switch dome and circuit board of Ogawa in providing actuation for said button by a user.

26. With regard to Claims 13-14, Fujita in view of Ogawa discloses the claimed invention as cited above. In addition, Fujita [Figure 19: (211)] and Ogawa [Figure 3: (3A)] teach a button wherein a cavity is defined, however, Fujita does not specifically

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teach reflective and opaque sidewalls of the cavity that reflect light toward the selected portion of the substrate.

Ogawa teaches the sidewalls of the cavity being made of a reflective and opaque material [Figure 3: (3A)].

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the sidewalls of the cavity out of a reflective and opaque material, as taught by Ogawa for the purpose and advantage of increasing the light transmitted from the sidewalls.

27. With regard to Claims 15-17, Fujita in view of Ogawa discloses the claimed invention as cited above. Fujita fails to specifically teach a trim plate positioned over a circuit board, whereby a graphics area formed about a surface of the trim facilitates the passing of light through at least one selected portion of the substrate, nor teaches a rotary knob positioned about the trim plate.

Ogawa teaches a trim plate [Figure 3: (1)] positioned over a circuit board [Figure 3: (22)], wherein a passing of light occurs through a selected portion/rotary knob [Figure 3: (4)], including an integral light pipe [Figure 3: (31)] with a visible light-transmitting surface [Figure 3: (31a)], about a surface of said trim plate. In addition, Ogawa teaches a substrate [Figure 3: (32)] spaced above a light source [Figure 3: (13)] and the circuit board by a distance such that the substrate is positioned about a common plane extending from a base portion of the knob.

It would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify the button with graphics of Fujita to incorporate the trim

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plate of Ogawa in order to provide an aesthetic appeal and protect the electrical components of the backlit display. Such trim plates are commonly associated with buttons and known in the art. In addition, it would have been obvious and advantageous to facilitate a knob switch, as taught by Ogawa, whereby a knob may provide a user with control over an intermediate state of the switch.

28. Claims 23, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita et al. (U.S. Patent 6517213).

Fujita discloses the claimed invention as cited above, but does not specifically teach the substrate having a contour of varying thickness (re: Claim 23), of hemispherical shape (re: Claim 25), nor of cylindrical shape (re: Claim 27).

However, it would have been an obvious matter of design choice to incorporate the substrate with a contour of varying thicknesses, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). In this case, altering the thickness of the substrate could allow for varying optical effects on the illumination to a desired preference. It also would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the substrate into various shapes, since it has been held to be within the general skill of a worker that mere change of form or shape of an invention involves only routine skill in the art. *Span-Deck Inc. v. Fab-Con, Inc.* (CA 8, 1982) 215USPQ 835. As mentioned above, varying the shape of the substrate would allow for varying optical

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effects on the illumination, as well as provide for an aesthetic appeal and easy usability with different shaped buttons.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following references are cited to further show the state of the art pertinent to the current application, but are not considered exhaustive:

US Patent 5397867 to Demeo;

US Patent 5477430 to LaRose;

US Patent 5500497 to Merriman;

US Patent 5510782 to Norris et al;

US Patent 5568367 to Park;

US Patent 5584380 to Naitou;

US Patent 5659161 to Takanohashi et al;

US Patent 6595653 to Saito et al;

US Patent 6608271 to Duarte;

US Patent 6658773 to Rohne et al.

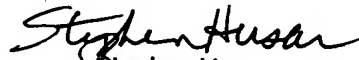
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Han whose telephone number is (571) 272-2207. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JMH (4/6/2005)


Stephen Husar
Primary Examiner